

SCR 140

SR 84



## **DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM**

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Statement of

**LUIS P. SALAVERIA**  
**Director**

Department of Business, Economic Development & Tourism

before the

**SENATE COMMITTEES ON ENERGY AND ENVIRONMENT  
AND  
GOVERNMENT OPERATIONS**

Tuesday, March 31, 2015

2:50 p.m.

State Capitol, Conference Room 225

in consideration of

**SCR140 / HR84**

**URGING ALL STATE AGENCIES TO RETROFIT STREET LIGHTS  
AND OTHER OUTDOOR LAMP LIGHTING FIXTURES WITH ENERGY  
EFFICIENT LIGHT-EMITTING DIODE BULBS, WHERE APPROPRIATE.**

Chairs Gabbard and Dela Cruz, Vice Chairs Green and Nishihara, and Members of the Committees. DBEDT supports the intent of SCR140 and SR84, while noting that the Legislature passed Act 287 during the 2012 Session that established requirements for retrofitting existing state fixtures to help achieve many of the objectives outlined in these resolutions.

It should be noted that recent advances in LED lighting allow for significant energy savings while reducing the amount of blue light emitted by these fixtures. We also concur that care should be taken to ensure that these resolutions do not weaken any existing county ordinances that mandate full shielding of outdoor lighting.

In addition, our department convened a Starlight Reserve Committee in July of 2010 to study the impacts of nighttime light pollution statewide and provide recommendations for a Starlight Reserve Strategy that would address these issues. The chairman of this committee, Dr. Richard Wainscoat, has provided testimony commenting on SCR140 and SR84.

Thank you for the opportunity to testify on these resolutions.

DAVID Y. IGE  
GOVERNOR



Testimony of  
FORD N. FUCHIGAMI  
DIRECTOR

Deputy Directors  
JADE T. BUTAY  
ROSS M. HIGASHI  
EDWIN H. SNIFFEN  
DARRELL T. YOUNG

IN REPLY REFER TO:

**STATE OF HAWAII**  
**DEPARTMENT OF TRANSPORTATION**  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

March 31, 2015  
2:50 p.m.  
State Capitol, Room 225

**SCR 140 / SR 84**  
**URGING ALL STATE AGENCIES TO RETROFIT STREET LIGHTS AND OTHER**  
**OUTDOOR LAMP LIGHTING FIXTURES WITH ENERGY EFFICIENT LIGHT-**  
**EMITTING DIODE BULBS, WHERE APPROPRIATE**

Senate Committee(s) on Energy & Environment and Government Operations

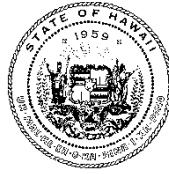
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The Department of Transportation (DOT) **supports the intent** of these resolutions, which urges all state agencies to retrofit outdoor lighting fixtures, including street lights and outdoor athletic facilities, with energy efficient light-emitting diode (LED) or better technology bulbs except in locations where the installation of energy efficient bulbs would not be permissible.

The DOT is already engaged in efforts that comply with Act 287, SLH 2012, "Starlight Reserve Strategy" and is also looking at energy saving strategies, one of which is the replacement of lighting fixtures at our facilities with LED and other energy saving technology. DOT has engaged a contractor that is looking at ways DOT can save energy. The scope of the consultants work includes the replacement of bulbs or fixtures that will minimize energy use.

Thank you for the opportunity to testify.

DAVID Y. IGE  
GOVERNOR



DOUGLAS MURDOCK  
Comptroller

**STATE OF HAWAII**  
**DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES**

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

WRITTEN TESTIMONY  
OF  
DOUGLAS MURDOCK, COMPTROLLER  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
TO THE  
SENATE COMMITTEE  
ON  
ENERGY AND ENVIRONMENT  
ON  
MARCH 31, 2015

S.C.R. 119

REQUESTING AN AUDIT OF THE ENERGY PERFORMANCE CONTRACTING  
PROGRAM

Chair Gabbard and members of the Committee, thank you for the opportunity to submit written testimony on S.C.R. 119.

The Department of Accounting and General Services supports S.C.R. 119 and looks forward to the results of the audit as a means to improve operations in the best interest of the State on behalf of the public.

Thank you for the opportunity to submit written testimony on this matter.

**Testimony Related to**  
**SCR140 and SR84**  
**Presented before the**  
**Senate Committee on Energy and Environment**  
**and**  
**Senate Committee on Government Operations**  
**The Twenty-Eighth Legislature**  
**March 31, 2015**  
**by**  
**Richard J. Wainscoat**  
**Chair, Starlight Reserve Committee**

Chairs Gabbard and Dela Cruz, Vice-Chairs Green and Nishihara and members of the Committees. My name is Richard Wainscoat and I am submitting this testimony in my capacity as Chair of the Starlight Reserve Committee.

The Starlight Reserve Committee is composed of representatives of the major stakeholders concerned with preservation of dark night skies in Hawaii. The committee has had extensive discussions related to outdoor lighting using Light Emitting Diodes.

I make the following comments:

1. Most importantly, the blue light from LEDs produces light pollution, limiting people's ability to see the night sky, and reducing the ability of telescopes to observe faint objects. Therefore, use of LEDs that have warmer colors (i.e., less blue) is important. Use of 2700K or 3000K LEDs reduces the amount of blue light, as does use of a filter, as is required on the island of Hawaii. This resolution should carefully balance energy savings and environmental harm.
2. This resolution does not mention existing state law that must be followed for state lighting. In particular, LEDs must have correlated color temperature of 4000K or less, and must be fully shielded. And the state must follow county lighting ordinances where the county ordinances are stricter.
3. The resolution should also mention astronomy activities on the island of Maui that also require careful protection from light pollution. The two Pan-STARRS telescopes, the Faulkes Telescope North, and a collection of Air Force telescopes are located on Haleakala and all require dark skies.

**Testimony Related to SCR140 and SR84**

**Senate Committees on Energy and Environment, and Government Operations**

**March 31, 2015**

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4. The island of Kauai has endangered birds that are affected by light at night. The effects of LEDs on these birds is unknown. Research by a UH graduate student suggested that these birds are least affected by warmer light (with less blue light).
5. Nesting turtles are affected by light at night. The impact on the turtles appears to be greatest for white light. Special care should be taken for lighting near beaches where turtles nest, including limiting the amount of blue light, and possibly only using amber light such as is required in Florida.
6. The resolution contains technical errors:
  - a. Light emitting diodes do not use less energy to produce the same amount of light. They produce approximately the same amount of light per Watt as T-8 fluorescent lamps and high-pressure sodium lamps, and less light per Watt than low-pressure sodium lamps. Instead, the light from LEDs is easier to direct, and there is less wasted light. So an area such as a roadway can be illuminated using LEDs more efficiently, using less total light, and that is where the energy savings is produced.
  - b. The H-1 freeway rehabilitation replaced high-pressure sodium lamps with LEDs.
  - c. Most current state roadway lighting is high-pressure sodium.

My name is Glenn S Tengan and by trade I am a marine electrician but trained and educated in lighting as a representative for manufacturers of light fixtures. Being in the lighting industry, I am very familiar with all types of mercury lamps that are installed in light fixtures.

The technology of the lighting industry has advanced in the last few years and with the Energy and EPA laws, government and businesses have had to comply with the new standards when replacing existing mercury lamps with energy efficient lamps, LEDs being the best choice because they are earth friendly.

Retrofitting with LEDs does not necessarily mean replacing the existing fixture but just replacing the mercury bulbs itself. The newer technology is just plug and play, in other words, remove the existing bulb and replace with LED bulb.(some may require removal of the ballast)

This will save not only cost of replacing the fixture but the man hours involved to do all this work. By using plug and play you cut down the man hours as well as save energy because the replacement LED uses only about a 3<sup>rd</sup> of the energy.

An example of this is a 400W HID bulb replaced with a 120W LED bulb which will not cause you to lose any brightness.

The manufacture that I represent has a 5 year warranty on all their LED lamps. Their lamps can be used for the following applications:

High Bays, Wall Packs, Post Tops, and Street Lamps. This represents most market segments that use HID lamps.

LEDs should also be considered for replacement of all fluorescents fixtures. A 32W fluorescent tube can be replaced with a 17W LED tube. These lamps are also plug and play, so there is no need to replace any fixtures. This eliminates the cost of fixture replacements and man hours used to replace the fixture.

State agencies using LED lamps retrofitted in the existing fixtures, will lead to energy savings and more importantly will get rid of the toxic mercury.

A mercury recycling mandate must come into play with the retrofitting of any fixture to LED. This program (recycling) will take the mercury off the Islands and we would be also recycling all the glass and metal too.

When every state agency retrofits all their fixtures to LEDs, then the state of Hawaii will get closer to sustainability. The state can serve as a model, then private sector can follow and do the same. Thus, we can look forward to becoming a GREEN state.